

05211000 MISSISSIPPI RIVER AT GRAND RAPIDS, MN

LOCATION.--Lat 47°13'56", long 93°31'48", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T.55 N., R.25 W., Itasca County, Hydrologic Unit 07010103, on left bank, 650 ft downstream from Blandin Dam, 150 ft upstream from bridge on U.S. Highway 169, 2.5 mi upstream from Prairie River, and at mile 1,182 upstream from Ohio River.

DRAINAGE AREA.--3,370 mi² (approximately).

PERIOD OF RECORD.--October 1883 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,242.03 ft above sea level (NGVD of 1929). See WSP 1914 for history of changes prior to Jan. 17, 1951.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Winnibigoshish Lake, Leech Lake, Pokegama Lake, Blandin Paper Mill (up to 16 ft³/s diverted for paper production), and occasionally at low flow by power plant at Blandin Dam. Backwater from Prairie River occurs at times in most years.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	367	389	597	791	664	579	937	635	1,010	813	382	369
2	377	360	603	793	656	548	1,020	610	1,180	750	394	255
3	370	361	631	852	651	529	e1,100	587	1,180	638	397	234
4	345	376	653	868	650	547	e1,080	535	1,170	671	390	233
5	346	403	649	888	626	616	e1,100	332	e1,200	737	302	311
6	368	424	630	889	601	664	e1,170	391	e1,210	647	410	548
7	357	402	621	897	601	618	e1,160	303	e1,210	626	395	359
8	354	409	554	883	651	604	e1,160	216	e1,210	662	360	739
9	372	428	591	838	638	664	e1,160	283	e1,200	679	388	809
10	376	428	711	751	607	594	e1,160	354	e1,080	683	394	1,030
11	397	445	590	724	586	649	e1,140	319	e1,070	860	350	1,190
12	433	448	636	790	547	629	e1,130	294	1,050	828	385	1,150
13	353	353	796	767	576	617	e1,000	294	e1,040	967	372	930
14	317	382	743	777	574	613	e940	284	e1,030	905	373	966
15	355	503	724	855	575	648	e930	419	e1,020	903	370	1,210
16	352	479	776	838	563	617	e920	424	999	797	370	1,300
17	371	443	738	790	557	629	e880	444	1,140	848	348	1,420
18	390	498	733	873	558	664	873	613	955	745	336	1,410
19	388	605	796	888	572	625	858	726	799	689	298	1,310
20	367	687	837	806	578	626	837	741	1,170	735	291	1,460
21	340	708	799	716	576	638	681	717	760	767	270	1,810
22	351	705	800	805	570	634	669	690	860	637	277	1,870
23	353	689	805	691	549	636	797	685	800	402	309	1,830
24	357	e650	811	667	555	642	721	690	682	564	310	1,990
25	378	612	840	724	559	658	659	755	695	599	296	2,010
26	400	613	771	734	550	663	699	708	797	474	296	2,060
27	370	676	829	725	555	724	766	673	772	363	293	2,000
28	360	691	858	724	632	753	683	747	737	344	289	1,670
29	358	603	770	712	528	738	587	868	749	450	257	1,830
30	358	600	850	711	---	730	650	763	882	397	222	1,730
31	382	---	845	675	---	915	---	927	---	345	298	---
TOTAL	11,362	15,370	22,587	24,442	17,105	20,011	27,467	17,027	29,657	20,525	10,422	36,033
MEAN	367	512	729	788	590	646	916	549	989	662	336	1,201
MAX	433	708	858	897	664	915	1,170	927	1,210	967	410	2,060
MIN	317	353	554	667	528	529	587	216	682	344	222	233
AC-FT	22,540	30,490	44,800	48,480	33,930	39,690	54,480	33,770	58,820	40,710	20,670	71,470
CFSM	0.11	0.15	0.22	0.23	0.18	0.19	0.27	0.16	0.29	0.20	0.10	0.36
IN.	0.13	0.17	0.25	0.27	0.19	0.22	0.30	0.19	0.33	0.23	0.12	0.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1884 - 2004, BY WATER YEAR (WY)

MEAN	1,446	1,350	1,154	1,138	1,120	1,065	1,034	1,151	1,235	1,361	1,335	1,384
MAX	3,544	3,259	2,608	2,410	2,729	2,762	3,622	3,668	3,271	3,363	4,505	4,438
(WY)	(1902)	(1903)	(2000)	(1952)	(1945)	(1945)	(1901)	(1901)	(1962)	(1962)	(1905)	(1905)
MIN	103	122	150	165	155	129	106	32.5	185	125	88.3	89.2
(WY)	(1937)	(1937)	(1937)	(1937)	(1934)	(1937)	(1937)	(1949)	(1936)	(1961)	(1934)	(1934)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1884 - 2004	
ANNUAL TOTAL	210,442		252,008		a1,240	
ANNUAL MEAN	577		689		2,429	
HIGHEST ANNUAL MEAN					193	
LOWEST ANNUAL MEAN					1934	
HIGHEST DAILY MEAN	1,440	Jan 1	2,060	Sep 26	8,900	Sep 29, 1914
LOWEST DAILY MEAN	234	Jun 27	216	May 8	b0.00	Oct 2, 1948
ANNUAL SEVEN-DAY MINIMUM	278	May 12	267	Aug 29	24	May 9, 1949
MAXIMUM PEAK FLOW			2,260	Sep 28	c12,500	Sep 3, 1948
MAXIMUM PEAK STAGE			6.78	Sep 28	d15.20	Sep 3, 1948
INSTANTANEOUS LOW FLOW			f92	Jun 16	b0.00	Sep 3, 1948
ANNUAL RUNOFF (AC-FT)	417,400		499,900		898,200	
ANNUAL RUNOFF (CFSM)	0.171		0.204		0.368	
ANNUAL RUNOFF (INCHES)	2.32		2.78		5.00	
10 PERCENT EXCEEDS	1,080		1,100		2,350	
50 PERCENT EXCEEDS	503		651		1,140	
90 PERCENT EXCEEDS	313		352		312	

- a Median of annual mean discharges is 1220 ft³/s.
- b Many days, several years.
- c From rating curve extended above 4500 ft³/s; result of dam failure.
- d From floodmark; result of dam failure.
- e Estimated.
- f Result of regulation.

